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(54) Window-covering for Road Vehicles

(57) In order to prevent, during the winter season, the formation of a relatively difficult-to-remove layer of ice on at least some of the windows of a road vehicle these window surfaces (1) are protected by a detachably adherent window cover part (2) consisting of a flexible material. The cover part (2) may be a sheet material formed of plastics e.g. P.V.C. containing a softener and/or of a paper having sufficient wet strength. The sheet material itself may have an inherent capability of adhering to glass or it may be coated or impregnated with a material which is adherent to glass. A peripheral margin zone (3) of the cover part (2) may be reinforced and can have a lesser or greater adhesive strength to the glass than the remainder of the cover part (2).

Fig. 1

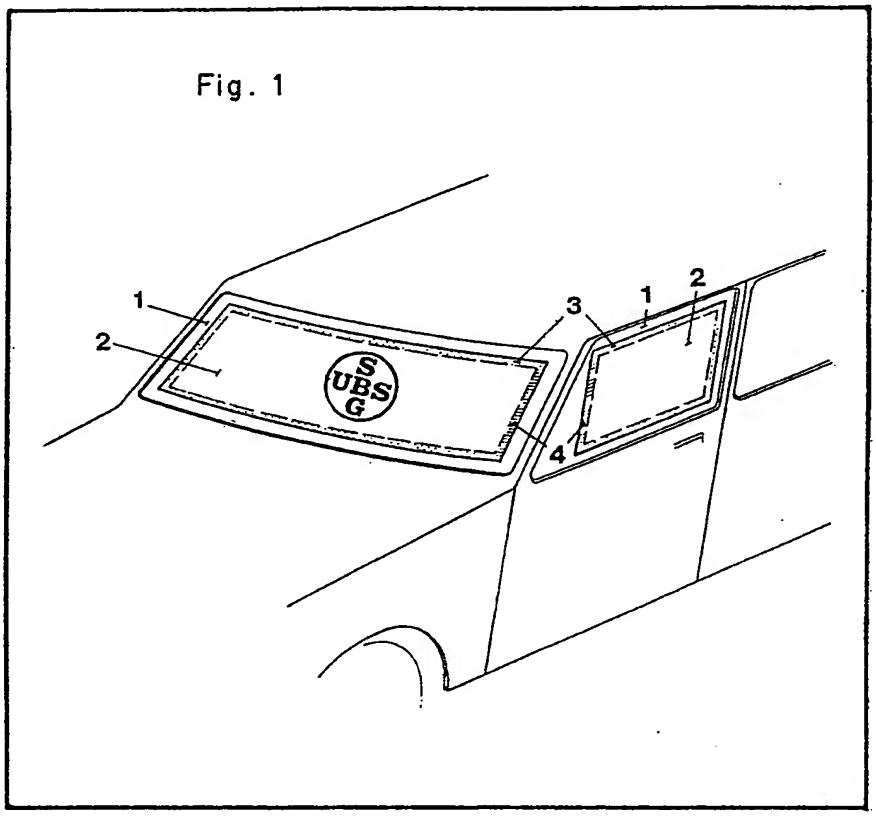

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Fig. 1

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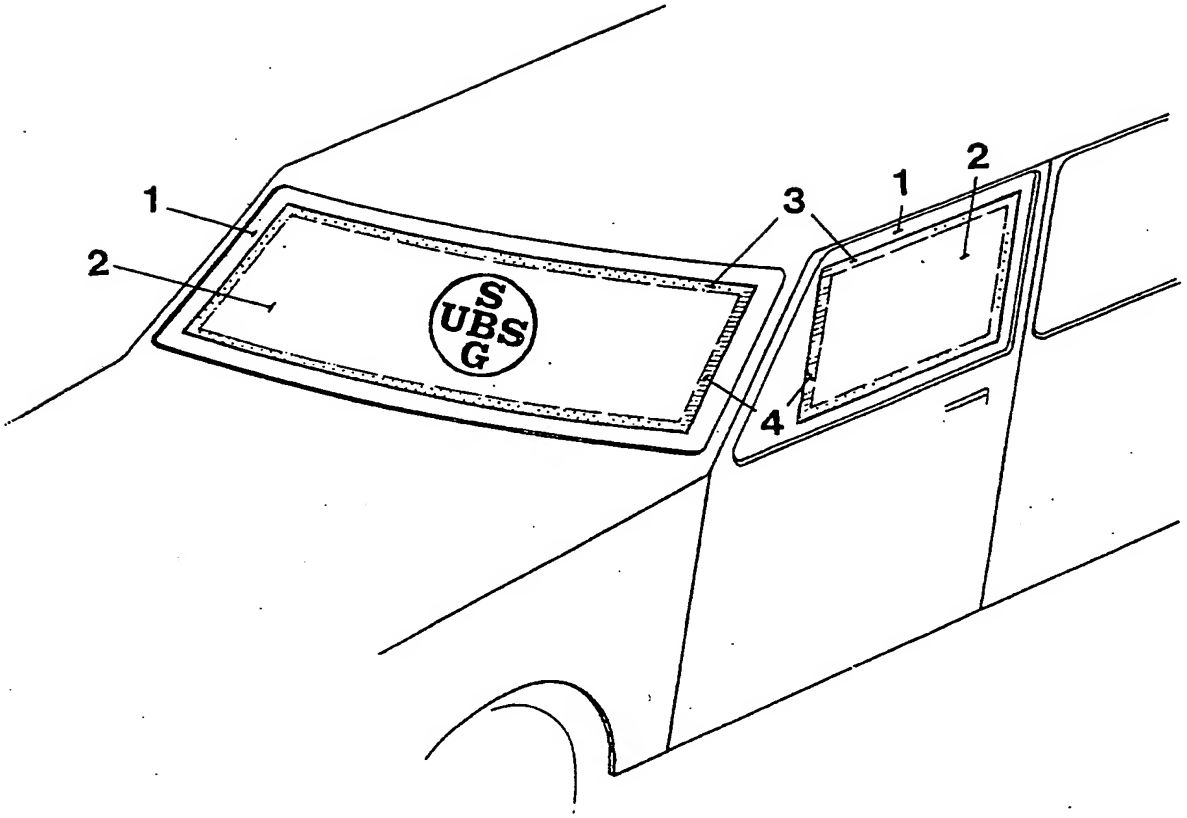

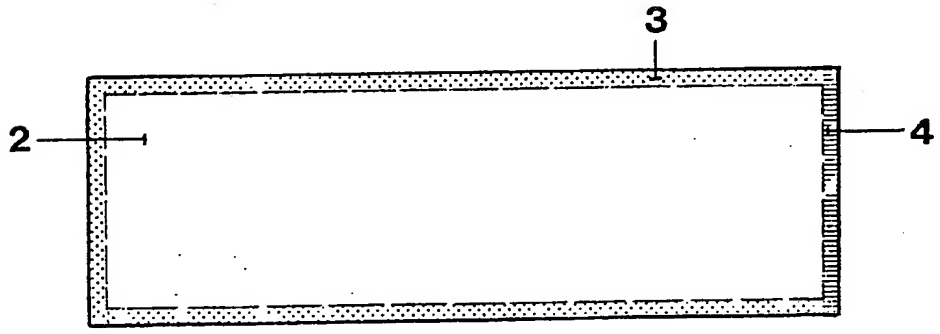

Fig. 2

SPECIFICATION

Window-covering for Road Vehicles

This invention relates to a window covering for road vehicles, especially for the front and rear windscreens.

It is well known that during the winter season, the windows of the road vehicles which are parked out of doors are very often covered with layers of ice or snow and their cleaning involves a good deal of time and trouble.

It is the aim of the present invention to provide a covering which eliminates the need for laboriously cleaning the windscreens and windows of the car in snow and icy conditions and which is easy to handle and apply.

According to the present invention there is provided a covering comprising a cover sheet which is made of a flexible material and which is detachably adherent to the window surface.

The invention is hereinafter described, by way of example, with reference to the drawings wherein:

Figure 1 is a perspective view showing a covering according to one embodiment of this invention as applied to the front windscreen of a motor car, and

Figure 2 is a plan view of another embodiment of the invention with the adhesive side facing the viewer.

In Figure 1, the window covering comprises a cover part 2 consisting of a flexible foil and adhering firmly but manually detachably to the windscreen 1 of the car.

The adhesion strength of the foil material of this cover part 2 is, on the one hand, sufficiently high to provide reliable assurance that the cover part 2 will not be accidentally detached from the windscreen even in strong wind and rain conditions and not even when covered with snow and/or ice, whilst on the other hand the cover part 2 can be readily taken off the windscreen 1 by hand without suffering any damage.

This cover part may, for example, consist of the foil material (foil type 72 HP) traded under the name "Guttagena" by Kalle Aktiengesellschaft, of WiesbadenBielrich, Federal Germany, or of the material supplied under type number VP 5118 by Gurit-Worbla AG of Ittigen Switzerland.

However, other PVC foils containing about 30 to 42% by wt., preferably 37% by wt., softener or paper or textile fabrics coated or impregnated with this material may also be used for such a cover part 2. The softener is preferably either dioctylphthalate, didecylphthalate, dibutylphthalate, or another phthalic acid derivation.

The cover part 2 may also consist of a flat, sheet-like base material coated on one side thereof to form an adhesive layer with a composition which on application comprises at least 12 to 32, preferably 20, parts polyvinylpyrrolidone, 20 to 60, preferably 30, parts ethyleneglycol, and 100 parts water and which is dried after application. The coating composition may also consist of 6 to 16, preferably 10 parts polyvinylpyrrolidone, 20 to 90, preferably 50 parts polyglycolether and 100 parts water, or of 30 to 70 parts, preferably 50, parts paraffinoil subliquidum, 15 to 25, preferably 20, parts of oil-soluble polyglycolether and 30 parts water.

A suitable flat and sheet-like base or carrier material for such a composition is, for example a wood-free paper of about 120 g/m² weight which has been rendered wet-strong by means of melamine or urea resins. Other base or carrier sheet materials under consideration are carton, cardboard, woven textiles, foils of plastic, aluminium etc., synthetic leather and the like.

The coating or impregnation material which is adherent to glass may contain, e.g. at least one water-soluble synthetic resin such as polyvinylalcohol, polyvinylpyrrolidone, strene-maleic anhydride copolymer-Na salt, water-soluble polyacrylates and polyacrylic copolymers as well as a water soluble hygroscopic product such as glycol, e.g. ethyleneglycol, glycerin and polysaccharides such as cane sugar, molasses and the like. It is also an advantage if the glass-adhesive coating or impregnation material contains a surface active substance, e.g. alkylarylpolyglycolether, alkylarylsulphonates and sulphates as a result of which any remnants of the adhesive coating or impregnation material which may stick to the glass can be easily washed off.

The cover part 2 may also consist of a sheet/foil material which is impregnated with a composition adherent to glass and containing at least one mineral or vegetable oil, in which case it is advisable to incorporate an oil-soluble surfactant in the impregnating composition which makes it easier to wash remnants of the composition off the glass.

For easier manual detachment of the cover 2 from the car windows prior to driving off, the peripheral marginal zone of the cover part, which has adhesive contact with the glass surface, has, in at least one region 4 thereof, a lesser adhesive strength than elsewhere, or no adhesion at all.

Also, the peripheral marginal zone 3 of the cover part 2 may be reinforced to avoid tearing when the cover 2 is detached, or peeled off the glass.

In order to prevent rain water from running into and collecting beneath the cover part 2, it may be advantageous to invest the peripheral marginal edge 3 of the cover part 2 with a higher adhesion strength relative to glass than the rest of the cover surface area in contact with the window or windscreen surface.

It is also conceivable that the impregnating or coating composition consists of a hot-melt adhesive which is tacky at the service temperature of the cover part.

A window covering according to this invention can very obviously also be used by way of a sun-shield or blind, however, in that case, it is essential that the adhesion power of the cover part 2 on the glass surface must still be

adequately strong even at elevated temperatures. For this kind of application it would be an advantage to render the side of the cover which faces the sun highly heat-and light reflective, e.g. by means of Sn- or Al-foils.

Furthermore, the window covers according to the present invention are also excellent advertising media.

Claims

1. A window covering for a road vehicle, comprising a cover part which is made of a flexible material and is detachably adherent to the window surface.

2. A window covering as claimed in claim 1, in the form of a foil which is adherent to glass.

3. A window covering as claimed in claim 1, wherein the cover part is impregnated with a material which is adherent to glass.

4. A window covering as claimed in claim 1, wherein the cover part is provided on that surface thereof which is destined to contact the window surface, with a coating of a material which is adherent to glass.

5. A window covering as claimed in any preceding claim, wherein the cover part is formed of a polyvinylchloride containing 30 to 42% by wt. of a softener, or is coated with such.

6. A window covering as claimed in claim 5, wherein the softener is present in an amount of 37% by weight.

7. A window covering as claimed in claim 5 or 6, wherein the softener is dioctylphthalate, didecylphthalate, dibutylphthalate or another phthalic acid derivative.

8. A window covering as claimed in claim 1, wherein the cover part has an adhesive layer coating on one surface thereof said coating, at the time of application comprising 12 to 32 parts polyvinylpyrrolidone, 20 to 60 parts ethyleneglycol, and 100 parts water, and being dried after application.

9. A window covering as claimed in claim 8, wherein the amount of the polyvinylpyrrolidone is 20 parts.

10. A window covering as claimed in claim 8 or 9, wherein the amount of the ethylene glycol is 30 parts.

11. A window covering as claimed in claim 1, wherein the cover part comprises a flat, sheet-like base material which has an adhesive layer coating on one side thereof said coating, at the time of application, comprising 6 to 16 parts polyvinylpyrrolidone, 20 to 90 parts polyglycolether, and 100 parts water, and being dried after application.

12. A window covering as claimed in claim 11, wherein the amount of the polyvinylpyrrolidone is 10 parts.

13. A window covering as claimed in claim 11 or 12, wherein the amount of the polyglycolether is 50 parts.

14. A window covering as claimed in claim 1, wherein the cover part comprises a flat, sheet-like base material which has an adhesive layer coating on one side thereof, said coating at the time of application, comprising 30 to 70 parts paraffinoil subliquidum, 15 to 25 parts oil-soluble polyglycolether, and 30 parts water, and being dried after application.

15. A window covering as claimed in claim 14, wherein the amount of the paraffin oil subliquidum is 50 parts.

16. A window covering as claimed in claim 14 or 15, wherein the amount of the oil-soluble polyglycolether is 20 parts.

17. A window covering according to any one of claims 8—16, wherein, the flat sheet-like base material is a wood-free paper which has been rendered wet-strong by means of melamine- or urea resin.

18. A window covering as claimed in claim 3 or 4, wherein the coating or impregnating material contains at least one water-soluble synthetic resin, and a water-soluble hygroscopic product.

19. A window covering as claimed in claim 8, wherein said at least one water-soluble synthetic resin is selected from polyvinylalcohol, polyvinylpyrrolidone, styrene-maleic anhydride copolymer-sodium salt, water-soluble polyacrylates and polyacrylic acid copolymers.

20. A window covering as claimed in claim 18 or 19, wherein said water-soluble hygroscopic product is selected from glycols, glycerin and polysaccharides.

21. A window covering as claimed in claim 20, wherein said glycol is ethylene glycol.

22. A window covering as claimed in claim 20, wherein said polysaccharides are cane sugar and molasses.

23. A window covering as claimed in claim 3 or 4, wherein the coating or impregnating material which has self-adherence to glass contains a surface active substance, which facilitates the removal of any remnants of the coating or impregnating material which may stick to the glass surface.

24. A window covering as claimed in claim 23, wherein the surface active substance is selected from alkylarylpolyglycolether and alkylarylsulphanates and sulphates.

25. A window covering as claimed in claim 3, wherein the cover part is a flat, sheet-like material which is impregnated with a material containing at least one mineral or vegetable oil which is adherent to glass.

26. A window covering as claimed in claim 25, wherein, said impregnating material contains an oil-soluble surfactant for the purpose of enabling easier removal of any remnants of the material which may stick to the glass surface.

27. A window covering as claimed in any preceding claim, wherein the cover part comprises, in its peripheral marginal zone which is adapted to make adhesive contact with the glass surface, at least one region which has a lesser adhesive strength than that of the rest of the surface area in contact with the glass in use, or which has no adhesion at all.

28. A window covering as claimed in any preceding claim, wherein the cover part has a reinforced peripheral margin zone.

29. A window covering as claimed in any one of claims 1 to 26, wherein the cover part has a peripheral margin zone which has a greater adhesive power to glass than the remaining area in contact with the window surface in use.

30. A window covering as claimed in claim 3 or 4, wherein the impregnating- or coating material is a hot-melt adhesive which is tacky at the service temperature of the cover sheet.

31. A window covering as claimed in any preceding claim, which is highly light- and/or heat reflecting on that surface thereof which is to face the sun in use.

32. A window covering as claimed in claim 31, wherein the light and/or heat reflecting properties are obtained with the aid of a tin or aluminium foil.

33. A window covering as claimed in any preceding claim, wherein the cover part which adheres detachably to the window surface consists of, or is coated with, a material containing a very large number of OH^+ ions.

34. A window covering as claimed in any preceding claim having advertising material thereof.

35. A window covering substantially as hereinbefore described with reference to the accompanying drawing.

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